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Recommendations for Operational, Structural and Organizational Changes for the State Railroad Administration of Uruguay

Appendix E

October 13, 1997

Prepared for:
Administración de Ferrocarriles del Estado (A.F.E.)
de la República Oriental del Uruguay

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ROLLING STOCK

MEMORANDA

SPECIFIC CONSIDERATIONS CONCERNING THE FINAL DRAFT OF THE RECOMMENDATIONS FOR OPERATIONAL, STRUCTURAL, AND ORGANIZATIONAL CHANGES FOR THE STATE RAILROAD ADMINISTRATION OF URUGUAY, SUBMITTED BY MERCER MANAGEMENT CONSULTING.-

I) Overview.-

- The development of "A.F.E. Ideal" has been conceived under the assumption that the Central Government will make no contribution whatsoever for operational or investment spending, and that an organizational structure under which all expenses can be fully covered by "A.F.E. Ideal" income may be achieved. This situation applies to almost no railway in the world, probably with the exception of some private US railroads.
  "A.F.E. Ideal" should aim at covering only the expenses of "A.F.E. Transporte", whereas funding transferred by the National Government should be left for "A.F.E. Infraestructura" (Infrastructure and Traffic Control).
  Actually, in our opinion, expecting that expense arising from the annual replacement of infrastructure assets should be covered is not convenient, since we believe this type of expense should be covered by the Central Government in the same way as other industry infrastructure is covered, such as the land-road, river, or airport infrastructure.
- Consequently, the Functional Organization proposed and designed by MERCER for A.F.E. differs from the organization which has already been adopted by the Company Management, i.e. an organization based on the existence of two areas, such as "A.F.E. Transporte" and "A.F.E. Infraestructura" would be, which are clearly distinct from the point of view of organization, and with fully separate accounting practices.
- The clearly commercial approach of the report has been considered as a highly positive approach, since it highlights and points to the strategies required to improve commercial productivity and to adopting such measures as may allow the company to provide services in which it enjoys a competitive edge vis-à-vis other means, e.g. customer services based on a multimodal transport system, a competitive cost study by means of selecting the suitable traffic for that purpose, and organizational alignment as the bases for the commercial success of the company.

II) Operational Aspects (GMR)

- Personnel retrenchment will be viable under the following assumptions:
  - Obsolete locomotives, as well as the great majority of wagons which are in a very poor condition (bogies, brakes, superstructure, etc.) are put out of service and replaced by new or recycled material in a good state of repair.
    If the majority of the current fleet is kept, the frequent repair work to which they need to be submitted makes it unpracticable to achieve the proposed degree of personnel retrenchment (12 wagons/employee).
  - The workshops and shops (*remesas*) would be equipped in such a way that personnel efficiency improvement could be supported and helped (for example, manually operated or remote control crane bridges, wheel profiling equipment without disassembling axles of vehicles, modern technological procedures, etc.).
  - The company should be developed in such a way that the personnel feels motivated to achieve excellency so that productivity levels can ultimately be compared to those from other railway companies mentioned in the report.
- As to outsourcing major locomotive components, the following drawbacks can be mentioned:

  There are no national firms which can do the work, which makes it necessary to turn to the Mercosur countries for that purpose. In this respect, barriers to temporary exports should be substantially lower than the current ones. Since Mercer's report supports the use of Alsthom locomotives, I do not believe that locomotive maintenance outsourcing may be dependable, especially the Diesel engine maintenance, not only because this engine is no longer used by locomotives in the area but also because it has evident compression problems, which makes it liable to generate pollution of the lubricating oil with the fuel (dilution). Owing to this circumstance, it may not be possible to reach as high a level of personnel retrenchment as it has been proposed by the report.
- For reasons which have already been explained and which I believe have been finally shared by Mercer, closing down Talleres Paysandú has not been considered a positive measure.

  On the contrary, concentrating locomotive maintenance in Montevideo so that responsibility for that function does not become diffuse and the human resources having a good technical level, which are very few, can be used in the best possible way, may be considered a positive measure. It could be interesting, however, to keep a service *remesa* (supply, getting equipment ready, correcting unimportant failures, etc.) in a place such as Salto, owing to its geographical location.

  Transferring the shop at Peñarol to the Carnelli Station gives rise to problems concerning space, infrastructure, and logistic support to the workshop, which makes this transfer, in our opinion, unpracticable.

Last, I would like to include some comments on two specific items about which the consultants seem to be mistaken:

a) Taking into consideration the typical characteristics of the c18-7i locomotive (its tractive stress curve vs. speed) and the typical topographical characteristics of the land affecting the track, it is not possible to pull 1900 ton trains.

b) According to the departures per year planned for the engineering personnel, the number of engineering employees needed to comply with service and tonnage of pulled trains requirements, between 22 and 25 daily trains seem to be considered for the planned schedule. Consequently, it is absolutely unpracticable to think of a fleet of 24 locomotives in order to meet the intended schedule, considering preparation for operation, maintenance, etc.

ROLLING STOCK MANAGEMENT DEPARTMENT

JULY, 1997

TRANSPORT MANAGEMENT DEPARTMENT

- For example, all trains have been considered as full block trains at their new maximum loads, and there are no passing loops having the required capacity to operate that number of wagons simultaneously. It is necessary to enlarge the passing loops or use a locomotive which can do the necessary movements in a timely manner, and many places do not have locomotives available on a permanent basis.

- For illustrative purposes: 595,000 annual tons of wood traffic from Rivera means that 35 fifty-net ton wagons have to be loaded every day during 360 days, 108 trains per week being run with a wagon cycle of 3.66 days.

- Although the traffic volume to be carried would highly increase, mainly "forest products", the number of clients and load/unload points would not increase.

- Thus, there are no grounds for the establishment of two commercial divisions if one or two officers in charge of forest products could be appointed -even if they had an office each-, acting within the Company's commercial and operational activities centralized framework.

- Focused Commercial Strategy
  What has been proposed is ideal but it should be borne in mind that no cargo passing loop has enough extension for "high volume trains". Cycles will be slower.

- All calculations about wagon requirements, train pulling, number of trains, etc., are based on 45-net ton capacity wagons.

- AFE does not have those wagons. They may be purchased, but they cannot run along the "Litoral" if tracks are not repaired.

- On average, each locomotive would run 8,500 monthly km. It is not known how this figure was reached, but it should be considered that, out of the complete fleet, kilometers are not recorded for the following locomotives devoted to "shunting": 1 in Rivera, 1 in Río Branco, 2 in Carnelli. Moreover, there are 2 locomotives for passenger trains which only run 128 kilometers per day, plus what was mentioned above, i.e. that out of the general cargo, 41% only runs 89 kilometers on average.

- Owing to general operating reasons, it is impossible to keep only 5 stations in service.

- Administrative and shunting personnel in stations is inadequate. Only in Dr. Carnelli a minimum of 5 shunting employees is required.

- How projections were made is not known, but, if 7 locomotives are required for wood, the remaining tractive equipment will not be enough to serve the foreseen traffic. In general terms: Cement Verdún to Manga, clinker Verdún to Km. 7; fuel Carnelli to Treinta y Tres and Durazno; limestone Queguay Paysandú; barley Paysandú Rivera; rice Rivera and Río Branco lines.

INFRASTRUCTURE MANAGEMENT DEPARTMENT

1) We agree with the investment and maintenance amounts stated. Those investment levels will significantly modify our current network standard. We would like to mention, however, that the amounts currently allocated to track maintenance work are significantly lower than those proposed by the Consulting Firm for a track in a better condition than the current one.

2) The current structure of the Infrastructure Management Department is the outcome of a process which has been implemented by previous Administrations, intended to outsource track maintenance work. The Consulting Firm proposes a structure in line with this same philosophy, with a higher level of outsourcing for the medium and long term. The process to be implemented must inevitably take into consideration what has been analyzed in items 1), 3), and 4), as well as the implementation of an industrial "flexibilization" program on a national level. The greatest drawback that this process has experienced has been that only part of the savings produced as a result of the reduction of the track maintenance personnel has been contracted out, a greater maintenance deficit being thus generated. Consequently, the conditions required to achieve the targets set by the Consulting Firm have not yet been created, if we assume that the proposal made by the Consulting Firm is technically justified as the most convenient one.

3) We do not agree with the proposal from the Consulting Firm as to centralizing Engineering functions, for daily monitoring of maintenance tasks and contractors is an essential part of Engineering functions and should be carried out at the work site, as the Consulting Firm itself states.

4) It is not within the powers of this Management Department to issue an independent opinion about the profitability of questioned lines (Mercedes Line, Fray Bentos Branch, and Rocha Line). It is worthwhile mentioning, however, that this Administration has allocated the major part of available resources to maintaining these lines on a contract basis.

CONCLUSIONS:

1) Cost reductions proposed by the Consulting Firm so that the rail mode becomes competitive in all areas expressly exclude infrastructure upkeep management, foreseeing a substantial increase in track expenses.

2) Any personnel reduction process in the Infrastructure Management Department will be subject to the following: that investments are actually made, that sums intended for maintenance work are actually allocated to that purpose, but, basically, that the Government changes the labor legislation currently in force.

August 4th, 1997

TECHNICAL AREA MANAGEMENT DEPARTMENT

COMMUNICATIONS DEPARTMENT

TO: GENERAL MANAGEMENT DEPARTMENT

RE: REPORT SUBMITTED BY MERCER CONSULTING FIRM

We are sending the following considerations related to the above reference, with regard to the items listed in the Mercer Report, page A-59 of the Communications and Signals chapter, since page A-58 only describes our department's current situation

Concerning the first item, we must say that we do not deem it convenient to remove the signaling system on the grounds that the freight volume does not justify an investment in it without providing an alternative solution to the serious problem we are facing due to the existence of some devices that have been working for 80 years and have exceeded their life term.

The signaling and electric switching system covers 16 km between Central-Colón and Central-Peñarol. There are 48 semi-automatic barriers, and level crossings are very close to one other. The system was designed on the basis of the structure of those level crossings and of the danger they represent, not the freight volume.

Our legislation establishes our duty to protect level crossings. Therefore, we believe that the signaling and electric switching system must remain, acting, as it does, as a protection for vehicles, people and our own interests as a company. However, for protection purposes and in order to strengthen and streamline our operations, this system must be updated urgently, as we have stated on other occasions.

It is important to mention that a staff reduction of 30-35 positions would not apply, since this sector has a staff of only 11 persons.

For the above reasons, removing the signaling system and the corresponding remote control switches together with switching systems in remote locations, as stated in Items 2 and 3 on page A-59, cannot be possible.

As regards item 4 of the same page, concerning the outsourcing of telephone maintenance operations, staff can not be reduced by 10-12 positions either, since there are only 2 workers assigned to the maintenance of our company's 300 telephones.

Item 5 reads: "Administrative and supervisory positions could be reduced at least in line with the reductions of other staff", by about 10 positions. This is not accurate, since this department has only four administrative officers and a semi-technical position.

It is worthwhile adding that the administrative function has already experienced a level of reduction which is not consistent with the remaining operational tasks in the Department.

Item 4 of page A-58 reads: “Radio system has currently only 2 staff, since the system only recently came off guarantee”. It shall not be possible to outsource this task, because the labor costs of private companies are very high, and a technician’s wages in this area cannot be compared to the wages our company pays.

ISABELINO VISSIO

HEAD OF THE INT. COMMUNIC. DEPARTMENT

Montevideo, July 11, 1997

MEMORANDA

From: **Marketing Management Department**

To: **General Management**

Subject: **Analysis of the Final Draft prepared by Mercer Management Consulting**

INTRODUCTION

At several Managers' meetings, I have expressed my opinion about the final draft concerning operational, structural, and organizational changes proposed by Mercer.

I have referred to some report assumptions and data which I consider negative since they materially affect or may affect the validity of Mercer's recommendations, and I have also referred to those aspects which I consider positive.

<u>COMMERCIAL ASPECTS DESERVING CLARIFICATION</u>

The Company's mission should have been defined more accurately by the final draft.

A global reading suggests that said mission consists of the following:

<u>A.F.E. is a railway business.-</u>

This apparently obvious statement is not that obvious. The current global trend is not towards independent but towards supplementary paths between different transport means. The transport service being offered to date in developed countries is an integral service where different transport means participate on a supplementary basis. This trend and the need for the Uruguayan railroad to follow it is hardly mentioned in the report. Hence the very few opportunities for new markets being analyzed.

<u>A.F.E. must meet the needs of its current major clients and get ready for the future traffic of forest products on the Rivera line.</u>

Truck tariffs applicable to fuel transport (page III.10, about U$S0,12 per ton/km) do not coincide with those charged on the Uruguayan market.

Truck cost is said to be U$S0,052 per ton/km; this is not even the truck price on the Uruguayan market.

I understand this is a "service production driven" report and not a "marketing driven" report.

The analysis has been focused on how the service should be produced in order to achieve its main target (cash balance). A commercial orientation would have meant studying primarily markets, clients, their needs, and, on the basis of that information, defining with what services and schedules those needs may be best met.

I do not mean, however, that the railway must provide any service and at any cost with the intention of meeting any transport need. I only mean that a balance between the supply and demand of rail services must exist, and that the needs of the demanding parties for those services may not coincide with the optimum choice for the railway. "Doing things well" is sometimes or almost always better that demanding the optimum.

From the report, it follows that lines to Fray Bentos, Mercedes, Rocha, would not be profitable in the medium term.

Current markets are changing markets, so much so that when Mercer did this analysis, all barley was carried to the Rivera borderline and a short time afterwards, today, volumes are mainly carried through Fray Bentos.

As regards the Mercedes line, although it is true that in the short term only barley would be carried by our company on that line, it is clear that the zone being served is the great producer of wheat, sunflower, and other grain, which may be captured by the railway.

Blanquillo and Minas

The restrictions of Rivera, Blanquillo, and Minas to carry forest products are also relative. The fact that the railway, maybe owing to current circumstances, is competing in a better standing and with a higher price in short than in long distances is a proof of the above; on what lines and in what volumes export wood would be transported by railway will definitely be determined be the market. We are currently moving forward on some high volume wood business to be carried to the Fray Bentos zone (a line which the report recommended should be closed down).

That the railway must achieve at least a "cash balance", including in its expenditure all infrastructure maintenance and replacement expenses

First of all, I say "cash balance" because that is the technical term that should have been used in the report; there is a current trend, even in academic groups, to use the words "financial", "economic", "commercial" as synonyms, and even to use any of these terms as a synonym for "efficiency". I do not share that view: it is obvious to say that a company may be financially sound and economically unviable, or the other way round. The Uruguayan environment shows many examples of private companies in that situation.

A cash balance, a good economic and financial standing, and an excellent market position are undoubtedly healthy; those are goals to be achieved. In the case of railway companies, however, most "Class 1" companies require subsidies to maintain and replace infrastructure. Thus, the prerequisite defined for "A.F.E. Ideal" seems too demanding.

According to the chart on page III.10, in the case of forest products transport, A.F.E. would only be competitive in long distances; on page IV-4, the contrary has been claimed: rail transport tariffs are higher than truck tariffs, for some of the longer distances (Rivera-Montevideo).

Answers from Mercer

Answers to Issues Raised by A.F.E. General Management Department

1. *Rolling Stock*

1.1 The Study provides for subsidies in Infrastructure investments. The main point in the analysis is that in the "medium term" AFE Ideal can support standard expenses for replacing infrastructure assets. However, it cannot do so in the long term, because the lines, except for 3, do not generate sufficient contributions to cover said expenses. Should AFE carry out Mercer's recommendations, AFE Ideal is self-sufficient, including what is called "AFE Infraestructura". AFE Ideal was defined by the President as the railroad that could operate with minimum subsidies or maximum profits. In identifying AFE Ideal, Mercer does not suggest that the government can not or should not continue to provide subsidies to operate unprofitable lines, if they are believed to be in the interest of the country. However, the required subsidies may be more than infrastructure subsidies alone. The low level of utilization of wagons, locomotives and crews on these lines is also an expense of operating them.

1.2 In fact, the Organization proposed by Mercer is different from that suggested by AFE, but this does not prevent the continuation of separate accounting records.

Operational Aspects

1.3 It is what was proposed by Mercer.

1.4 It is also what was proposed by Mercer.

1.5 All right.

Outsourcing

1.6 The levels of employment projected in the report already consider the difficulties in maintaining the Alsthom locomotives. See page B-2. No doubt, if they were replaced with larger, more dependable units, total locomotive maintenance could be reduced.

1.7 Leaving Talleres Paysandú is not the ideal choice, but Mercer has already given a favorable answer to the issue of whether to keep them or close them down. Most likely the workshops will be centralized in the long run.

1.8 There are no reasons to keep Remesa Salto. We understand that the principal reason for the shop at Salto is to support the Alsthom locomotives. Since more GE's will be used on the line and the Alsthom locomotives would be used on other lines, the Remesa at Salto does not appear to be required.

1.9 It is essential to have a Preparation Center at Estación Carnelli. Should this recommendation not be followed, a status quo generating large inefficiencies in crew performance and train dispatching will be maintained. If there were no passenger service or there were adequate alternative facilities for passengers, Carnelli would be fully available to support the freight service. When Carnelli is committed to passenger service, the freight operation is forced to incur much higher costs than if it could dispatch locomotives from Carnelli. As the traffic to the port increases, freight use of Carnelli will be even more important.

1.10 Theoretically the new GE locomotives can handle 1900 tons on a 1.5% grade at a speed of 12.2 kph for 30 minutes or 1600 tons on a 2% grade for 5 minutes at 9.5 kph. Locomotive requirements have been estimated using a maximum of 1550 tons per train. Still, it will be necessary to confirm, with actual train runs, what the maximum practical train size is on each line. See page D-9 for details.

1.11 There is an approximate average of 24 daily trains; one locomotive can pull more than one train per day. Preparation and maintenance times have been provided for. See page D-2 for details.

2. *Transportation*

2.1 AFE has sufficient passing loops to handle trains of up to 26 wagons.

2.2 Correct.

2.3 O.K. There are two business lines in the Mercer proposal due to the intention to permit a high degree of focus on the forest products business during its start-up years. Once the operation is successful and stable, two organizations would not be justified.

2.4 It is assumed that the investments needed to prevent track restrictions, among other things, will be made (Chapter I, page 1).

2.5 The average is correct and refers only to the line locomotives. The Study assumes that AFE Ideal is a freight company only.

2.6 It is not clear what the "operating reasons" are that prevent having only 5 stations in service. In the year 2003 there will be no obstacles for keeping 5 stations in service.

2.7 Operations are simplified, and it is assumed that crew personnel participates in the simple shunting envisaged. Administrative tasks are also simplified thanks to proposed investments in information systems and communications.

2.8 The locomotives were calculated as follows: GE 7 (forest products) + 3 (other traffic) ; Alsthom 8 (in line) + 4 (shunting). See page D-2 for details.

3. *Infrastructure*

3.1 The maintenance amount with a track in a better state of repair is higher than amounts currently allocated, since current amounts are completely insufficient.

3.2 It is assumed that the necessary investments will be made, and the corresponding amount will actually be allocated to infrastructure maintenance (Chapter I, page 1).

3.3 The recommendation to centralize Engineering tasks is to be applied after the infrastructure improvement works are completed.

3.4 See Chapter I, page 1.

4. *Communications*

Mercer considers the signal system in two functional sections. One section is the equipment used to control train movement. The other is equipment related to protecting level crossings. When we refer to eliminating the signal system on page A-59, it refers only to the equipment used to control train movements. On page A-24, the report notes that automatic equipment to protect level crossings would still need to be installed. The remaining signal equipment that is used to control switches and train movements can be safely eliminated so long as an alternate set of operating rules is established, as has been done in similar locations in other countries. Nothing in the Mercer report should be interpreted to suggest operating AFE with a sub-standard level of safety.

The 35 positions mentioned which could be eliminated are not in the Communications department, but in Transportation.

There are 18 positions associated with telephone, electrical and facilities maintenance. The report should have said that contracting could replace about 10-12 of those positions.

AFE notes that the wages paid to technicians of contractors are much higher than those paid by AFE. Normally, high wages are due to a high level of demand for a particular skill. This is also true in Uruguay. One would have to wonder if AFE can attract and retain skilled technicians at wages that are far below those being paid by contractors.

Normally, those specialized tasks that can be done by contractors can be performed with equal quality and at a lower cost than a large company. In all cases, using contractors requires clear and complete contract documents and effective supervision to ensure that services are rendered according to the needs of the railroad.

5. *Marketing*

5.1 Mercer analyzed the transportation businesses it deemed most important and most likely to occur, all at the moment of conducting the Study. The data were duly discussed with AFE authorities, including the Marketing Management Department.

5.2 Mercer did not review the CSI Consultants Study for MTOP concerning, among other issues, freight allocation (forest products) to the railway, trucks, etc. in the different routes.

5.3 The option to seek a company like "AFE Ideal" was not proposed by Mercer but by the President of AFE.

5.4 At present, for longer distances, the rail transport tariff, plus the necessary transport to reach or leave the rail station, yield a higher price than that obtained directly by truck. Regarding the report's conclusion that the railroad could only be competitive with truck in longer distances, that assumes that the railroad is interested in recovering its costs of transport. In the case of the Minas business, the rail rate was far below the truck rate, ensuring a large participation in this market for rail. It was unclear why the rail rate was so far below truck or whether handling this business at this price is viable for the long term. Regarding the long haul from Rivera, the total rail cost to shippers was actually above truck costs and therefore little wood was being hauled by the railroad at the published rate.

5.5 The US$ 0.12/Ton.Km rate was provided to Mercer at the time of the study.

5.6 We know that trucks do not cover their costs. The US$ 0.052/Ton.Km cost of trucks was calculated through a model prepared by Mercer.

5.7 The Study aims at obtaining a "marketing driven" railway company, able to define a railway business that can be operated with the lowest subsidy, or, if possible, with the highest yield. For this purpose, operational, structural and organizational changes that can create a more efficient railway system for Uruguay are recommended.

5.8 We understand that the export of malted barley through certain routes is due to short-term commercial conditions.

5.9 As regards bulk grain production, we believe that it can be attracted depending on the tariff policy to be applied, which would just consist in setting tariffs below costs so as to compete with the truck system. Certainly there may be some volume of business at some price that may be carried by the railroad on the Mercedes line. However, considering the investments required to improve the line and the prospects for future traffic, Mercer believes that there is no important benefit to be gained from further investment and that operation of the line would be a financial drain on AFE.